Eddie Nolan

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OBJECTIVE

C++ developer and standards committee member with financial market data experience interested in developing software for trading, market data, and research platforms.

WORK EXPERIENCE

London Stock Exchange Group, New York, NY. *June 2022-current*
Senior C++ Developer

- *Maintained* `mstnorm` application
  - Added features and fixed bugs for application that generated normalized data files (Parquet, CSV, JSON) from PCAP data.
  - Refactored Parquet output component with C++20 concepts for improved genericity across normalized message types.
  - Designed and implemented a mechanism for attaching stable identifiers to CBOE complex options.
  - Developed a new application for reprocessing Parquet output to update its schema.
- *Maintained CI system*
  - Regularly updated entire C++ monorepo to ensure compatibility with new GCC and Clang versions.
  - Implemented CI/CD tooling for managing hundreds of Docker images used for CI and customer builds.

MayStreet Inc, New York, NY. *Acquired by London Stock Exchange Group.* *March 2020-May 2022*
C++ Developer

- *REST/WebSocket Server*
  - Developed high-performance multithreaded Asio server that acts as a load balancer for backend servers, and translates query responses from a dedicated proprietary protocol into HTTP/WebSocket.
  - When configured with eight threads, server was tested as providing ~7.5 Gb/s total query bandwidth, nearly saturating a 10Gb link.
- *MIDAS Backend Server*
  - Implemented Asio-based backend server that implements a simple IPC protocol allowing any configured child process to serve queries to the REST/WebSocket frontend server.
  - Used this server to refactor legacy applications from the SEC's MIDAS platform into a modern, Dockerized service running in Kubernetes.
- *Apache Parquet* `mstnorm` *Output*
  - Developed software used to efficiently transform normalized market data into the Apache Parquet columnar data format, used to populate a multi-petabyte data lake.

MANA Tech LLC, New York, NY. *Sept 2017-Feb 2020*
C++ Developer and System Administrator

- *Equity market data binary format and DSL*
  - Helped specify a binary format for U.S. equities data, implemented corresponding feed handlers, and contributed to a domain-specific language for doing research on the data.

PUBLICATIONS

- **E. Nolan**, "Endian Views," SC22/WG21/P4030, Feb 2026
- **E. Nolan**, "A Sentinel for Null-Terminated Strings," SC22/WG21/P3705, May 2025
- T.Z. Laine and **E. Nolan**, "Unicode in the Library, Part 1: UTF Transcoding," SC22/WG21/P2728, Oct 2024

OPEN-SOURCE

Beman Project
The Beman Project hosts and provides support for implementations of C++ standard library proposals.

- beman.utf_view: C++29 UTF Transcoding Views
  - Updated an existing internal libstdc++ implementation of P2728R6 to support newer revisions, adding a new error handling API, bidirectional iterators, and tests.
- beman.exemplar and beman.infra: Beman Project infrastructure and new-project template
  - Implemented a new Dockerized CI framework and added project-wide C++ module and vcpkg support with modern CMake.

TALKS

- Scaling beman.exemplar, C++Now 2026
- The Unauthorized History of UTF, Core C++ 2024

EDUCATION

Carnegie Mellon University, Pittsburgh, PA

- Bachelor of Science in Electrical and Computer Engineering *December 2015*